



A new Tier 1 Rare Earth Province in the Jequié Block, Northeastern São Francisco Craton

May 2024

BRAZIL IS AN EMERGING GLOBAL POWERHOUSE

Brazil is a Rising Global Force in Rare Earth Production

Critical source of rare earth supply



Brazil hosts **multiple provinces with IAC rare earths** making it a critical source of future heavy rare earths supply



BRE's district-scale rare earth mineralisation represents one of the few sources of large-scale, high-grade heavy rare earths **outside of China**

Productive Differential



Clean energy matrix to supply production



Highly qualified workforce

Internal Demand



Brazil is a future demand centre for heavy rare earths, hosting the **worlds 6th largest automobile market**



Magnets using heavy rare earths underpin the the wind energy industry that currently **accounts for 11% of Brazil's energy**

Source: Public reports and documents. Locations shown are approximate. List is not exhaustive.

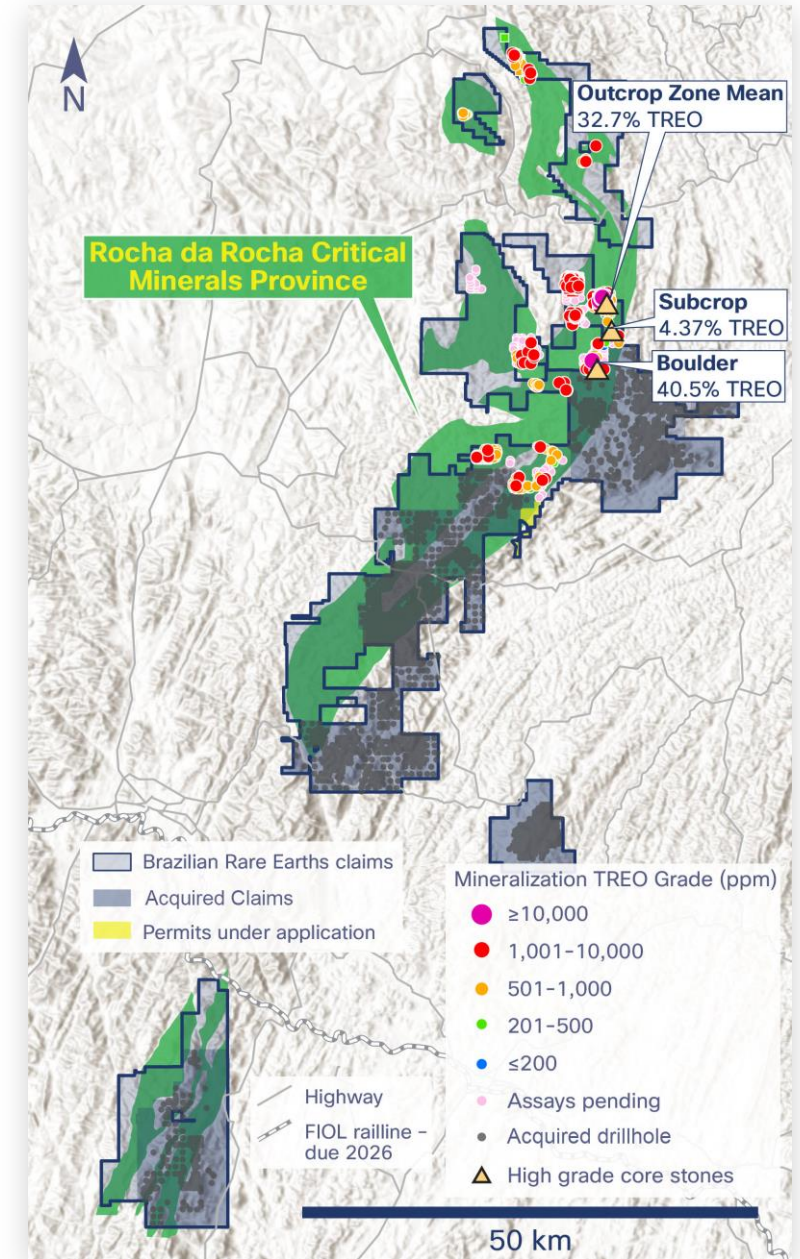


- Brazilian Rare Earth Districts
- Ex-Chinese Ionic Clay Deposits
- REE Refining / Separation Capacity
- Producing Western REE Deposits

TRANSFORMATIVE ACQUISITION

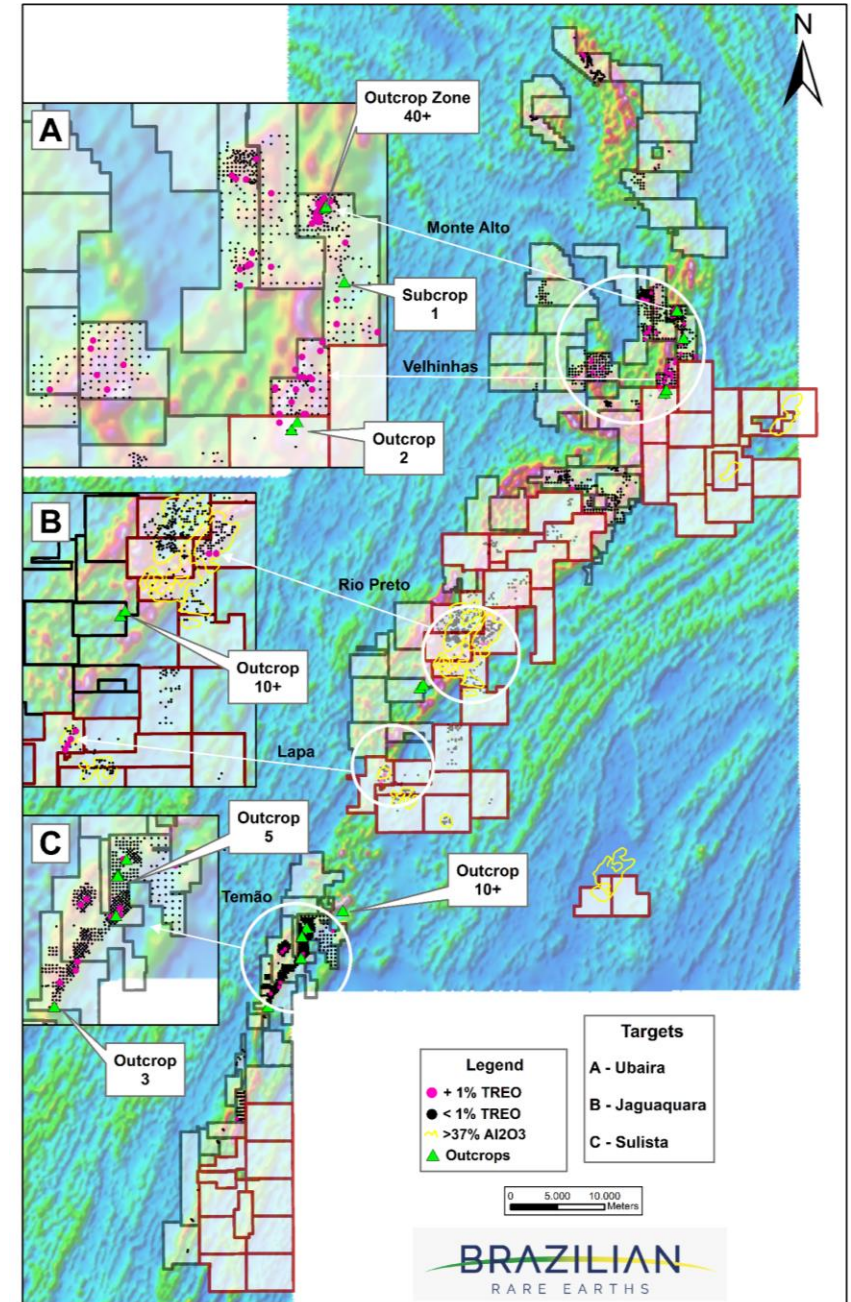
Strategic opportunity to accelerate resource growth with +61,000m drilling

- Recent transformative acquisition of contiguous exploration project that secures near full control over the world-class rare earth province
- Highly advanced exploration project with over 800 km² of tenements near BRE
- Vendor conducted a +10-year bauxite exploration program
- Rare earth minerals were not in scope and only a few rare earth element assays were performed during the entire exploration program
- Over 61,000m drilled by Vendor generating valuable geological data including 1,692 surface geological samples, detailed topography and geophysical surveys, and long lead time environmental base line surveys
- At BRE current exploration costs, drilling costs for ~61,000m would be ~US\$18m
- BRE is expediting re-assays of geological core to test for rare earth elements
- Estimated reduction in time to secure this valuable data is reduced from over 3 years to potentially less than 6 months



BRE RARE EARTH PROVINCE

- BRE controls ~4,000km² of highly prospective critical mineral properties, this is the only truly province scale project in Brazil
- Airborne survey and ground geophysics indicate a massive trend of highly prospective geophysical anomalies
- BRE has discovered three compelling styles of rare earth mineralisation across the province:
 - Ionic Adsorption Clay mineralisation
 - Saprolite monazite enriched REE mineralisation
 - High-grade REE-Nb-Sc magmatic hard rock mineralisation
- Successful geophysical exploration model that has identified target areas for exploration drilling – nearly every drill hole has intercepted rare earth mineralisation
- JORC resource of 510mt @ 1,513ppm TREO is contained in less than ~4% of total tenement area
- ‘Monte Alto’ rare earth resource of 25.2mt @ 1% TREO and a high-grade core of 4.1mt @ 3.2% TREO



HIGH GROWTH DEVELOPMENT





GEOLOGY AND EXPLORATION

Geology

The REE district-scale Volta do Rio Plutonic Suite (VRPS)

- The VRPS forms a large NNE-SSW elongated belt which extends throughout the project area
- The internal stratigraphy of the VRPS was proposed by Fernandes et al. (2019), who discovered ultramafic and mafic cumulates of REE minerals in the Sulista Project area
 - High-K Calc-Alkaline granitic gneisses and leucogranites
 - Ultramafic to gabbroic enclaves
 - Intermediate layered hornblendites and monzonites
- The High Grade REE-Nb-Sc mineralization occur inside the VRPS
- This assemblage of REE bearing rocks has not been documented outside of the Rocha da Rocha area.



R36 – Outcrop

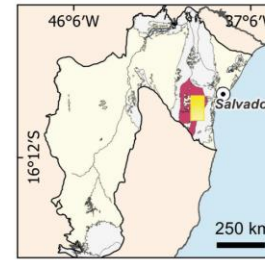


MADD0010 – Drillhole Sample



SDD0006 – Drillhole Sample

BRAZILIAN RARE EARTHS LTD.



LEGEND:

Geological Context

○ State Capital

■ Area of Interest

BRE tenements

⬜ São Francisco Craton

■ Post Orosirian Units and Cover

■ Jequié Block

⬜ Other Tectonic Blocks

Geological Map

Structures

⬆ Antiform

⬆ Sinform

— Faults

⬆ Compressional Shear Zones

— Transpressive to Transcurrent Shear Zones

Geological Units

■ Undifferentiated Granites

■ Brejões Charnockitic Suite

■ Mafic-Ultramafic Complexes

Itabuna-Salvador-Curaçá Orogen:

■ Ibicaraí and Almandina Complexes

Jequié Complex:

■ Leucogranulites and Charnockites

■ Volta do Rio Unit

■ Riacho do Xenem Unit

■ Laje-Mutuipé Unit

■ Santa Inês 'unit'

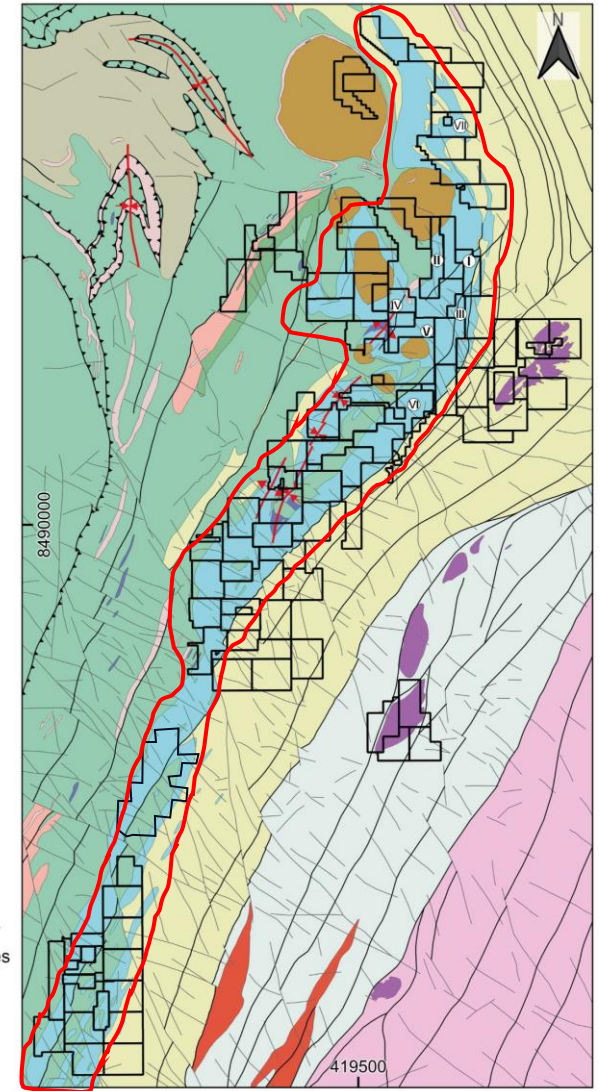
■ Mafic Granulites

■ Supracrustal rocks

■ Undifferentiated Granulites

Ipiau Complex:

■ Undifferentiated gneisses



Made by Filipe Alencar; 08/25/2023; Coordinate System WGS 84 / UTM Zone 24S

Exploration Targets:

I: Monte Alto (MA)

IV: Machado (MCD)

VII: Mucuri (MCR)

II: Riacho de Areia (RDA)

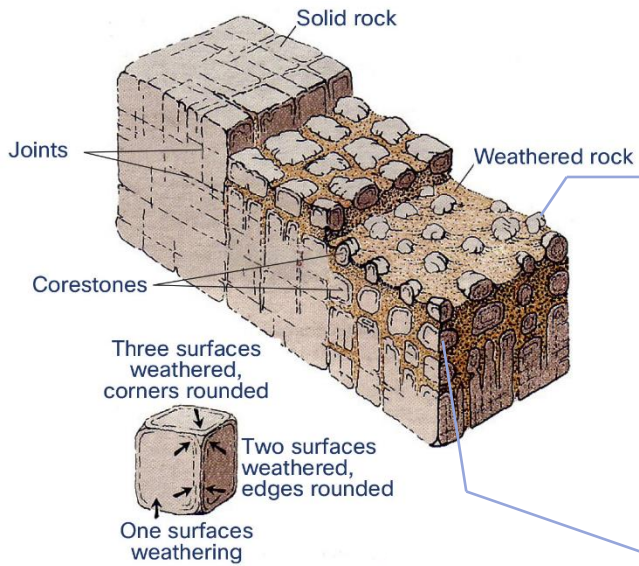
V: Boca da Mata (BM)

III: Velhinhas (VLH)

VI: Três Braços (3B)

HIGH GRADE REE-Nb-Sc MINERALIZATION

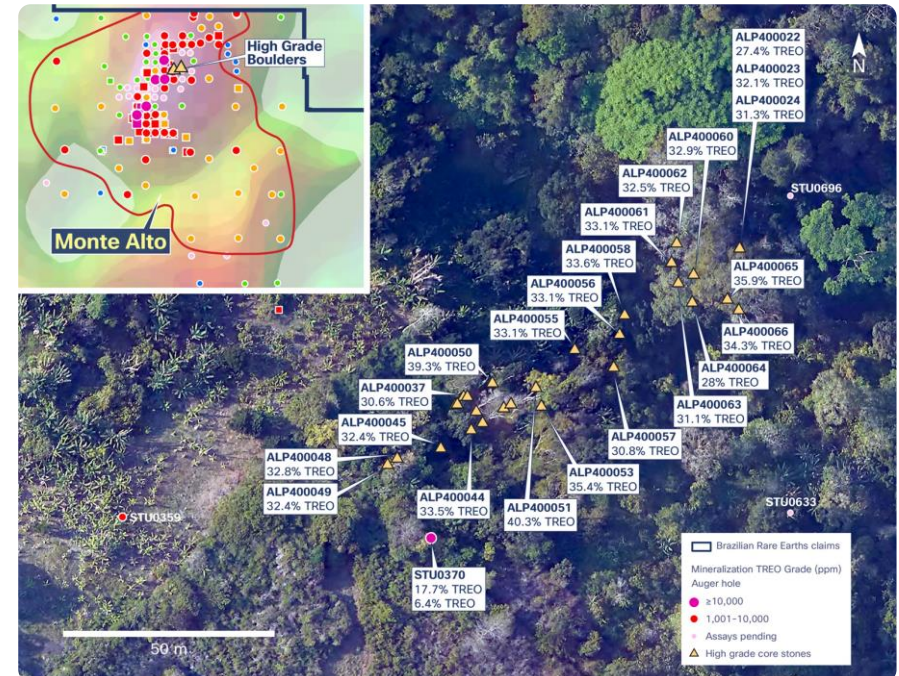
- High grade magmatic REE-Nb-Sc mineralization primarily hosted.
- Occurrence confirmed by 32 samples of outcropping core stones in Monte Alto
- Massive occurrences across the BRE property, released soon.



Surface corestone



Undersurface corestone



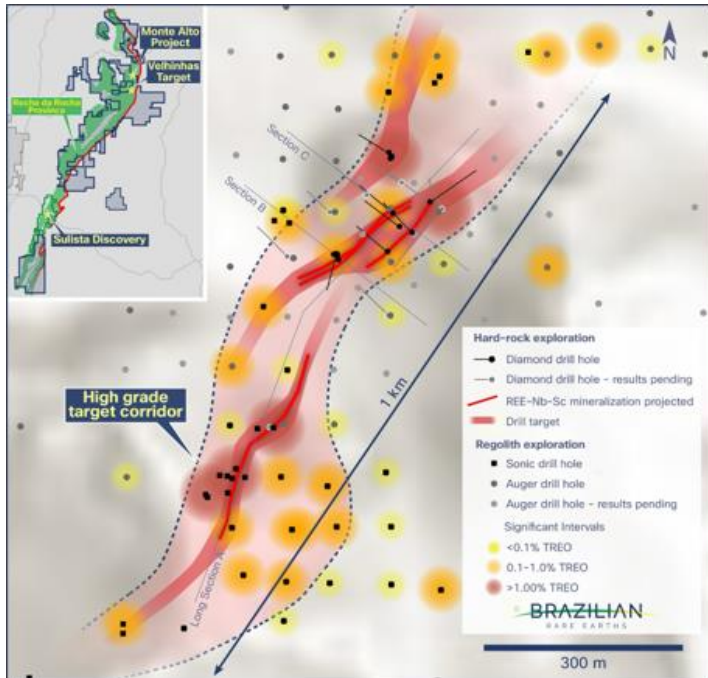
	TREO (%)	NdPr (ppm)	DyTb (ppm)	Nb ₂ O ₅ (ppm)	Sc ₂ O ₃ (ppm)
Max	40.50%	71,380	3,365	14,825	269
Mean	32.70%	55,977	2,844	11,107	219
Min	20.10%	40,700	1,873	5	8

Surface samples – high-grade outcrop

AN UNPRECEDENTED REE-Nb-Sc DISCOVERY

High grade magmatic rock REE-Nb-Sc mineralization

- Cumulate layering with granoblastic texture of interlocking grains with triple point boundaries, indicating crystallization under high-temperature conditions
- Unprecedented discovery exclusive to Rocha da Rocha Critical Mineral Province



Monte Alto - High grade target corridor

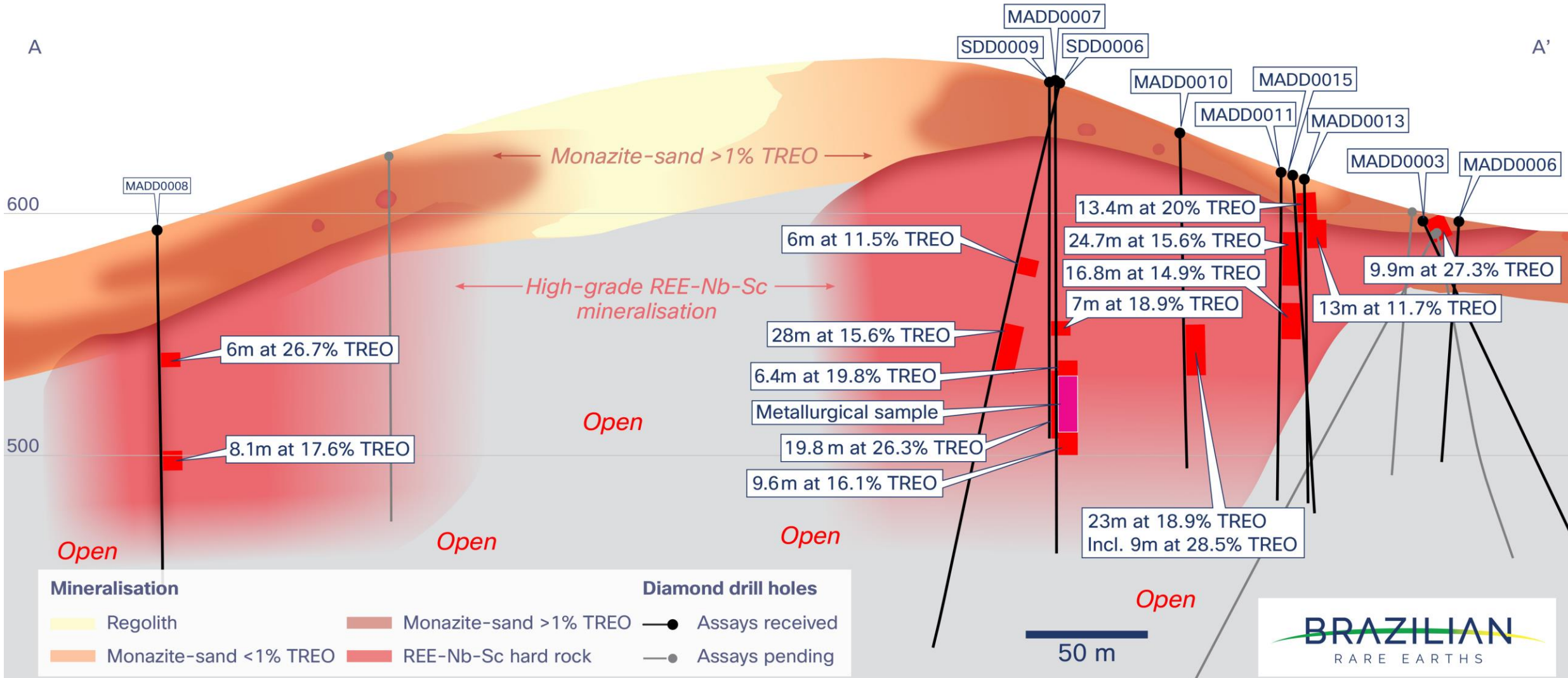
High Grade Rock (Hand sample)



Sample ID	TREO (%)	NdPr (ppm)	DyTb (ppm)	Nb (ppm)	Sc (ppm)
ALP400022	27.4%	46,600	2,850	12,441	259
ALP400023	32.1%	55,910	3,184	10,637	223
ALP400024	31.3%	51,220	3,042	11,119	249
ALP400028	40.5%	69,860	2,114	5	8
ALP400037	30.6%	53,620	3,037	14,778	247
ALP400038	29.8%	47,840	2,465	11,139	236
ALP400039	28.1%	50,590	2,568	13,430	269
ALP400040	31.8%	49,450	2,231	12,246	246
ALP400041	34.7%	57,500	2,700	10,808	213
ALP400042	35.6%	61,160	3,042	9,392	194
ALP400043	32.8%	53,810	3,021	12,619	255
ALP400044	33.5%	56,640	2,908	11,116	228
ALP400045	32.4%	52,680	2,594	10,150	223
ALP400047	33.1%	56,300	3,044	13,257	217
ALP400048	32.8%	55,300	2,687	9,581	214
ALP400049	32.4%	52,320	3,068	13,408	220
ALP400050	39.3%	67,960	3,239	10,093	186
ALP400051	40.3%	71,380	3,365	9,257	173
ALP400052	20.1%	40,700	1,873	6,886	263
ALP400032	35.7%	63,370	3,220	10,144	165
ALP400053	35.4%	58,940	2,907	10,844	212
ALP400055	31.8%	55,240	2,923	13,988	233
ALP400056	33.1%	56,170	2,794	10,637	218
ALP400057	30.8%	52,720	2,947	14,140	254
ALP400058	33.6%	60,000	3,043	12,563	230
ALP400060	32.9%	55,700	2,815	10,961	219
ALP400061	33.1%	58,440	3,035	8,967	178
ALP400062	32.5%	53,910	2,908	11,926	242
ALP400063	31.1%	56,630	2,902	12,185	247
ALP400064	28.0%	52,690	2,650	14,825	269
ALP400065	35.9%	61,420	3,016	9,712	196
ALP400066	34.3%	55,190	2,816	12,168	219
Average	32.7%	55,977	2,844	11,107	219

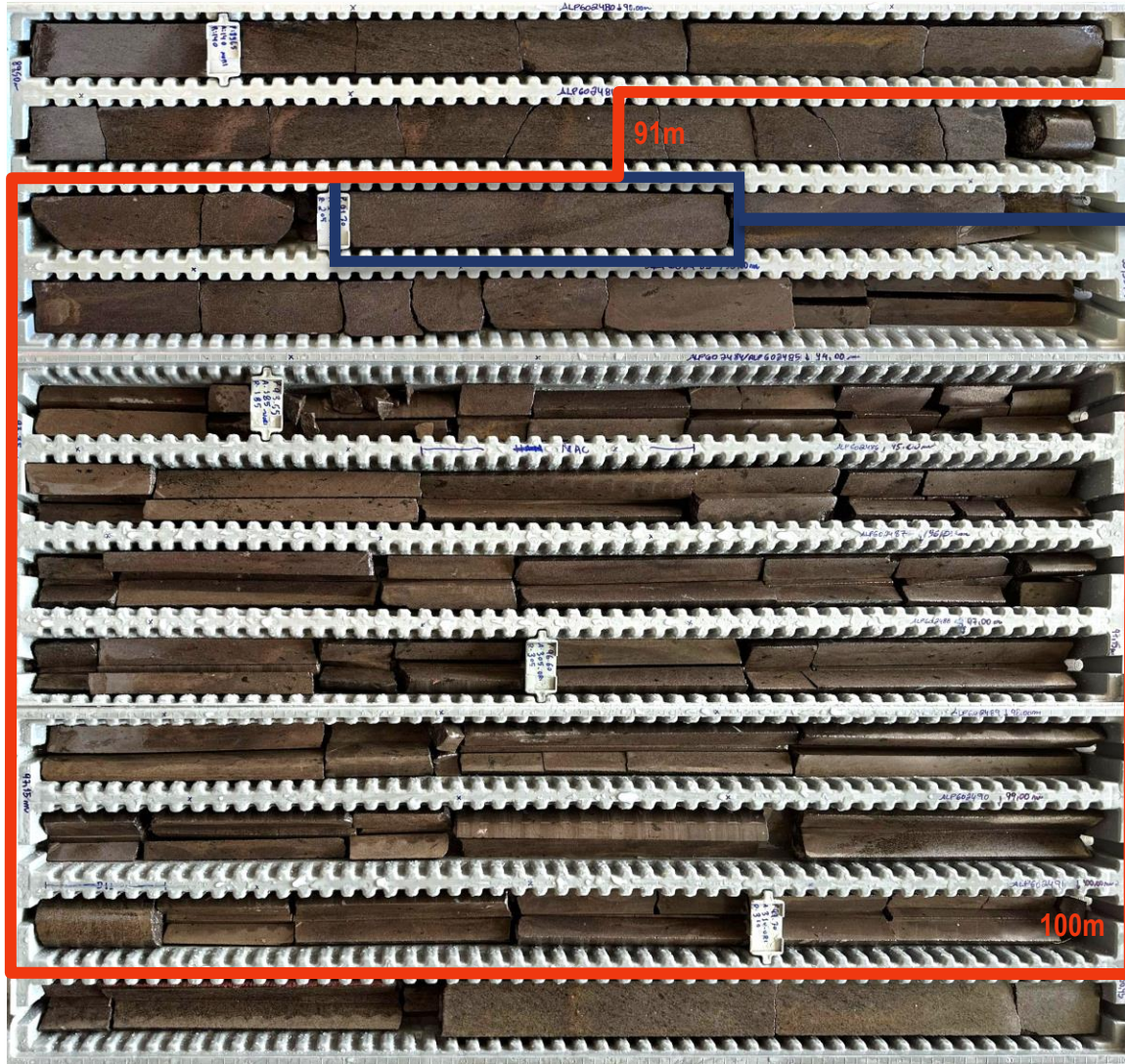
Up to 40.5% TREO
(71,380 ppm NdPr, 3,365 ppm DyTb, 14,825 ppm Nb₂O₅)

Monte Alto long section



MADD0010: 9m at 28.5% TREO from 91m,
within 23m at 18.9% TREO from 84m

REE-Nb-Sc Mineralization

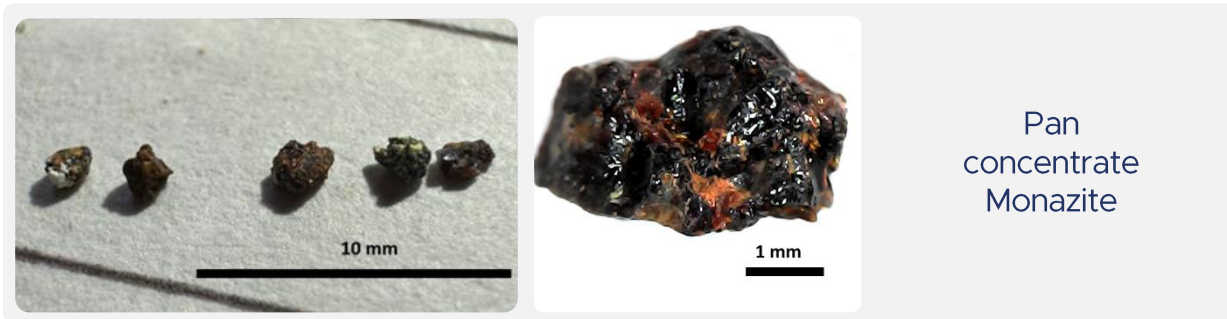


Medium to coarse
grained cumulate texture

Hornblende > **Monazite** > Apatite >>
Chevkinite > Bastnäsit-(Ce) > Quartz

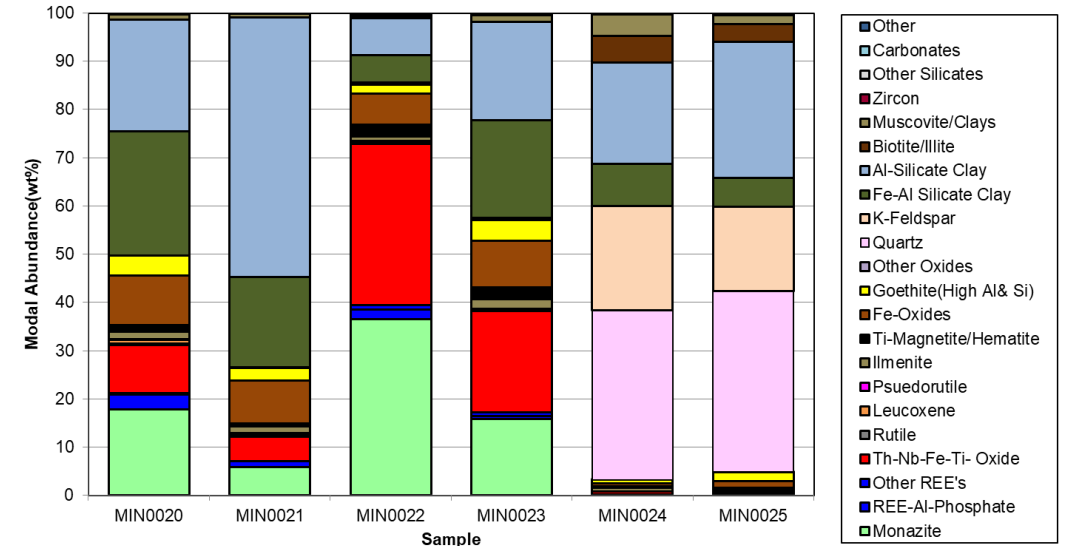
MONAZITE IN SAPROLITE REE MINERALIZATION

- Evident at Monte Alto Project with an initial JORC Resource estimate
- Characterized by near-surface, highly weathered saprolite zone enriched with monazite
- Completed testwork shows monazite grains are predominantly sand to gravel size, typically ranging from 0.1mm to 1.0mm and occasionally up to 4mm
- Significant potential for gravity separation process

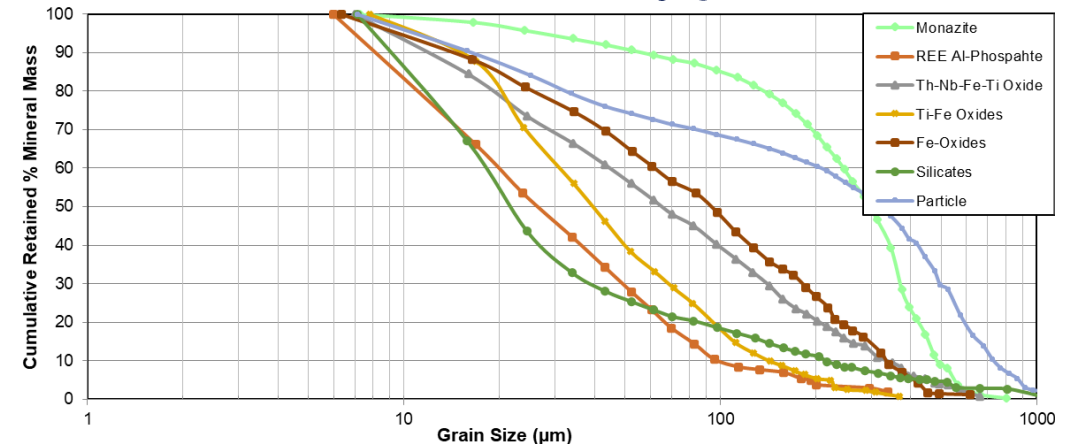


BRE Rare Earth JORC Resource Estimate Summary			
Deposit	Tonnes (millions)	TREO (ppm)	MREO (% of TREO)
Saprolite High Grade REE	25.2	10,022	26.6%
Ionic Adsorption Clay (IAC)	485.1	1,071	28.9%
Total	510.3	1,513	28.1%

Modal Mineralogy Abundance

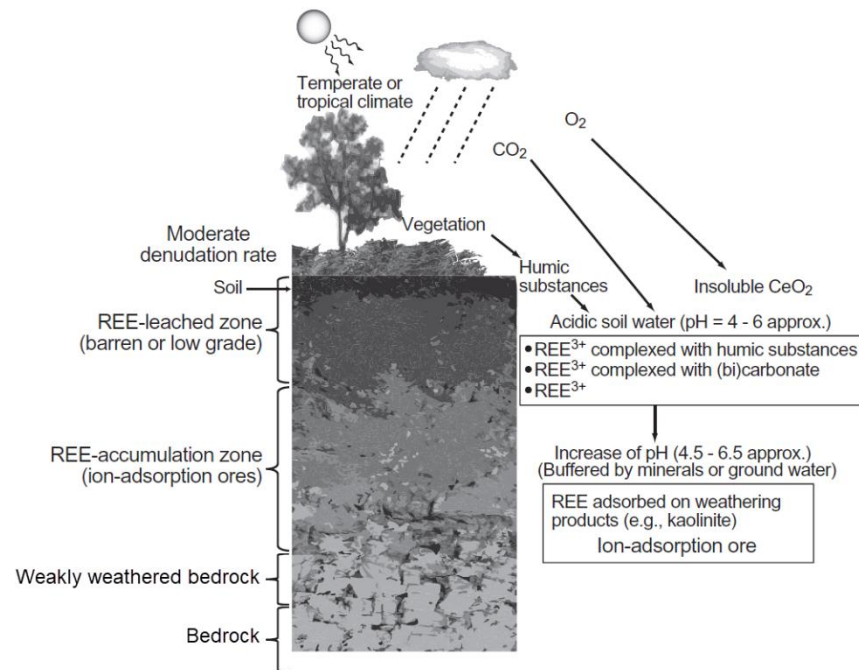


Cumulative Retained by grain size

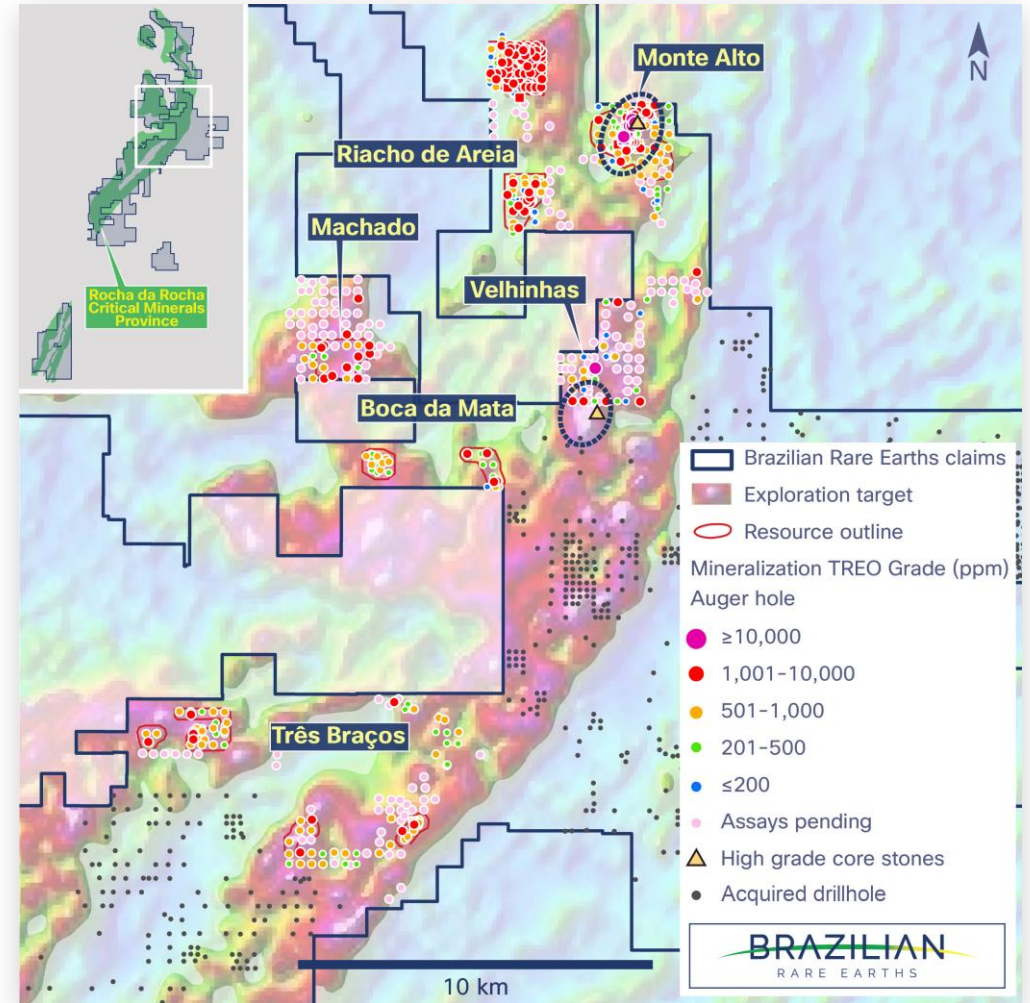


IONIC ADSORPTION CLAY (IAC) MINERALIZATION

- Represents a significant portion of the current JORC resource estimate
- REEs adsorbed to clay minerals ionically, can be readily liberated by washing with a weak acidic solution (pH 4, room temperature)
- HREO increase with depth. Occurrences with high proportion of HREO found along BRE tenements
- Main IAC Targets: Riacho de Areia (RDA), Machado (MCD) and Três Braços (3B)



Schematic model - genesis of IAC REE deposits



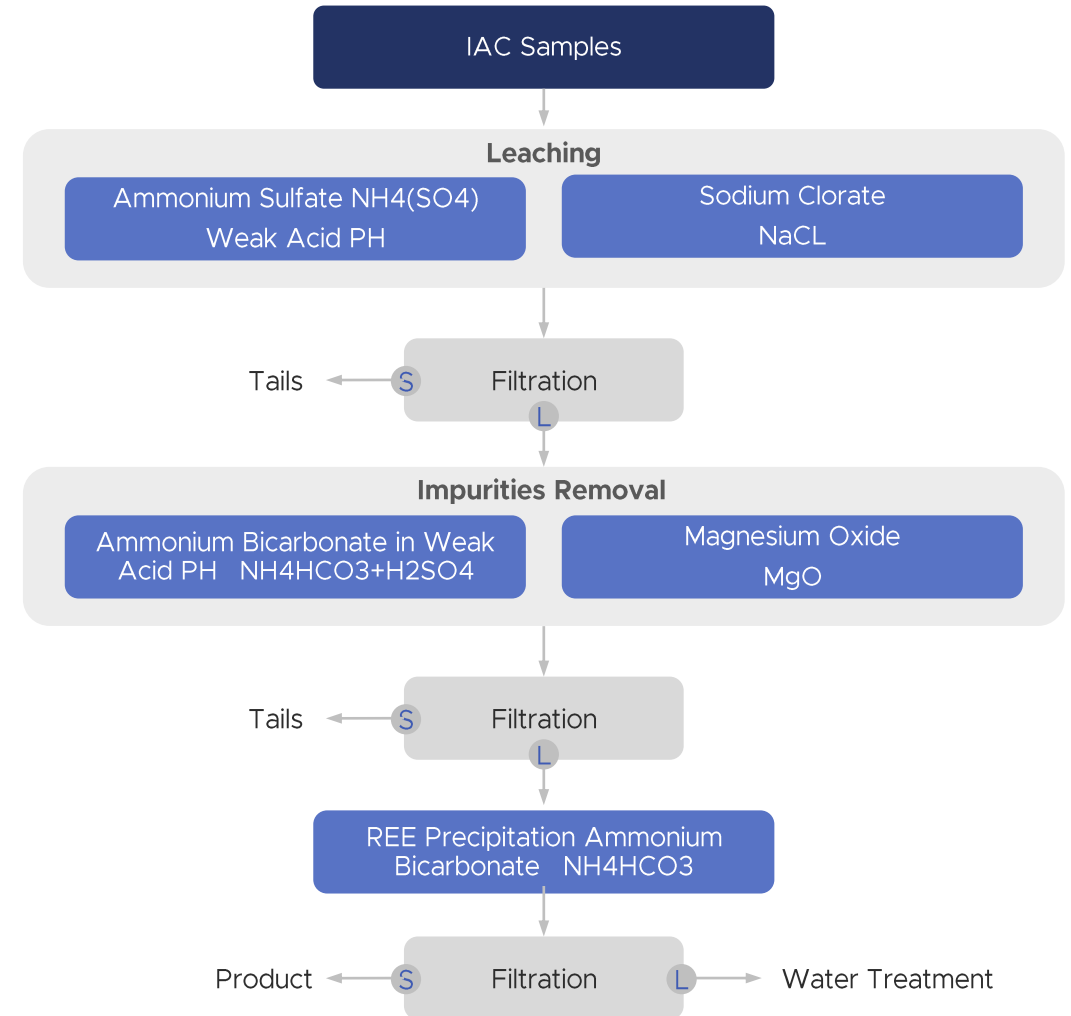
Surface samples – high grade outcrop

METALLURGY FLOWSHEET: IONIC ADSORBED CLAYS

Extensive testing program with first-class institutions



BRE dedicated Lab
through a Public- Private Partnership



ABUNDANT HIGH-VALUE REE MINERALIZATION

Three distinct categories of mineralization identified by BRE

- High grade REE-Nb-Sc magmatic mineralization
- Saprolite enriched REE mineralization
- Ionic Adsorption Clay (IAC) mineralization

BRE Rare Earth JORC Resource Estimate

Deposit	Tonnes (millions)	TREO (ppm)	NdPr (% of TREO)	MREO (% of TREO)
Monte Alto (High Grade)	25.2	10,022	18.8%	26.6%
Monte Alto (IAC)	104.1	1,105	16.6%	27.4%
Riacho de Areia (IAC)	125.1	1,203	18.1%	32.8%
Boca da Mata (IAC)	51.0	966	18.8%	25.4%
Tres Braços (IAC)	91.9	815	18.2%	26.2%
Mucuri (IAC)	20.1	1,016	20.8%	30.6%
Machado (IAC)	83.9	1,213	15.8%	28.2%
Velhinas (IAC)	8.9	860	16.2%	23.5%
Total	510.3	1,513	17.9%	28.1%



PRIORITY EXPLORATION PROJECTS

Primary high-grade REE-Nb-Sc mineralization along the geophysical trendline of the Rocha da Rocha Province

- Successful Monte Alto exploration ‘pathfinders’ to be applied across the province
- Core drill rig mobilized to Pelé Target 1
- Maiden diamond drilling campaigns at Sulista and Velinhas targets underway



Investors visit – Oct 23

Monte Alto Project – Confirmed discovery

- 3,104m of diamond drilling
- Mineralized intercepts up to 34.4% TREO
- Up to 5.9% NdPr, 3,229ppm DyTb, 1.5% niobium and 352ppm scandium
- Drilling is ongoing

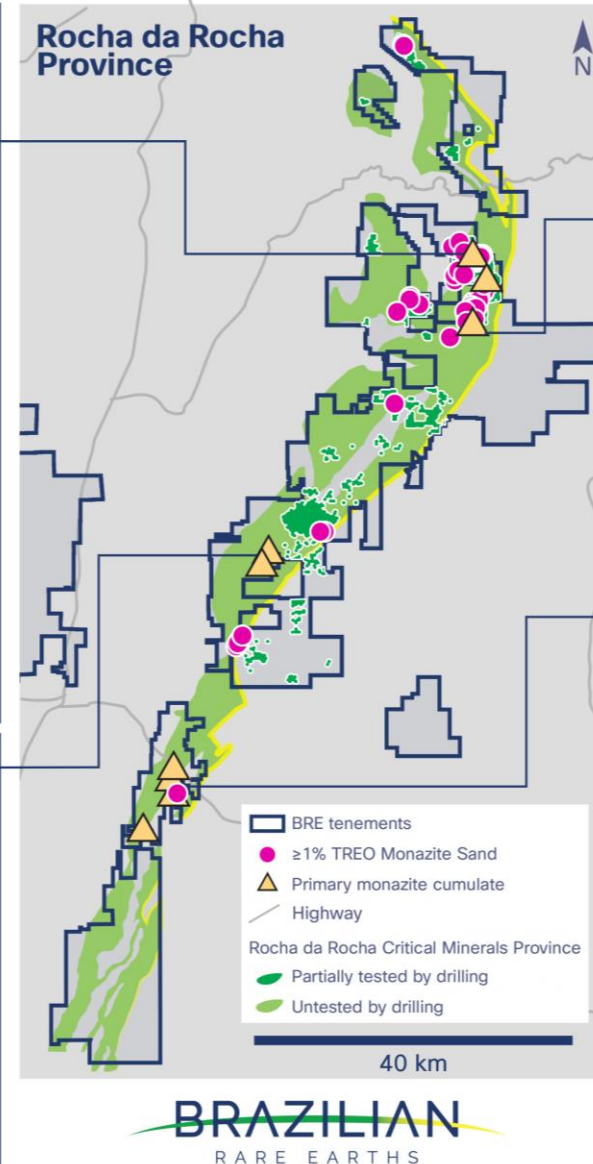
REE-Nb-Sc mineralization in SDD0009

Monazite cumulate boulder

Pelé Target – Largest Thorium Anomaly

- Intense Th anomaly covering 5km of strike
- RTX auger re-assays of >1% TREO associated with monazite sand
- Reconnaissance has discovered mineralized outcrops and boulders
- Pelé targets are over 10 x the area of Monte Alto

Monazite cumulate boulder



Velinhas Target – Highest TREO grade

- 7km south of Monte Alto
- Highest grade boulder at 40.5% TREO
- Drilling underway

Core drill at Velinhas

Sulista Project – Discovery

- Diamond drilling underway to twin 13m monazite cumulate intercept in historical hole
- Verification sampling underway for 11 acquired auger holes with historical assays >1% TREO
- Monazite sand confirmed in pan concentrate
- Grades of ~21% TREO reported⁴
- Reconnaissance continues to discover mineralized outcrops and boulders

Monazite cumulate boulder Site 3

Panned concentrate from JEQ_CA_AUG00007



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